

SPIROMETER

Spirometry :- Is the most common of the pulmonary function tests (PFTs)

Is a method of assessing lung function by measuring the volume (amount) & flow (speed) of air the pt can expel from the lungs after a maximal inspiration.

Indications For Spirometry :-

- To evaluate symptoms like dyspnea, signs or abnormal tests.
- To detect or screen individuals at the risk of

4) pulmonary function. disease.
To measure the effect of disease on pulmonary function.

5) To assess pre-operative risk.

6) To assess prognosis.

1. To assess therapeutic intervention.

2. To describe the course of diseases that affect lung function.

3. To monitor people exposed to injurious agents & surveillance of occupation related lung disease.

4. To monitor for adverse reactions to drug with known pulmonary toxicity.

5. To assess pt as part of a rehabilitation programme.

3) Contraindications :-

1. Hemoptysis of unknown origin.

2. pneumothorax.

3. unstable angina pectoris.

4. Recent myocardial infarction.

5. Thoracic aneurysms, abdominal aneurysms, cerebral aneurysms.

6. Recent eye surgery (within 2 weeks due to the intraocular pressure during forced expiration).

7. Recent abdominal or thoracic surgical procedures.

8. pt with a history of syncope associated with forced exhalation.

9. pt with active tuberculosis should not be tested.

Difference b/w breathing & Respiration.

1. Mechanism by which organism obtain O_2 from the air & release CO_2 .
It includes breathing & oxidation of food in the cells of the organism to release energy.
2. It is a physical process.
It is a biochemical process.
3. It involves lungs of the organism.
It involves the mitochondria in the cells where food is oxidized to release energy.

Standard Spirometric Indices -

The spirometer calculates different ventilation parameters -

The total volume of air that can be forcibly exhaled in one breath after taking maximum inspiration.

The volume of air that can be expired in the 1st sec. during forcible expiration.

